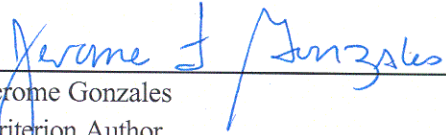


CRITERION 301

PLANNED UTILITY OUTAGE


SIGNATURES


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12/05/02
Date

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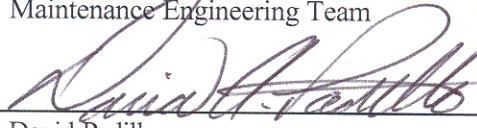
665-2612
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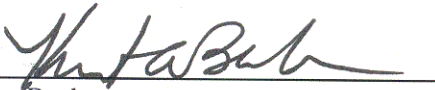
667-3616
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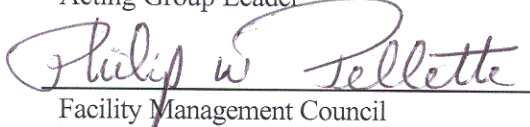
665-0106
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RECORD OF REVISIONS

Revision No.	Date	Description
0	12/10/98	Initial Issue. Replaces 3.1-100, Rev. 0.
1	11/21/02	Includes DOE Lessons Learned from 1993 to present. This revision also reflects the addition of a Table of Contents, the use of basis statements in Sections 6, 7 and 9.
		Reformatting to reflect 101 Writer's Guide Rev. 3.
		Incorporation of comments due to Occurrence Report Number ALO-LA-LANL-ESHSUPT-2002-0002.
	10/09/03	Editorial change to definition of "Requestor" in Section 3.2, Definitions

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CRITERION 301**PLANNED UTILITY OUTAGE****1.0 PURPOSE**

The purpose of this Criterion is to identify persons responsible for coordinating a utility outage, to define their responsibilities, and to provide a standard for consistent accomplishment of the necessary work.

This document addresses the requirements of LIR 230-05-01(Ref 10.1), "Operations and Maintenance Manual."

Implementation of this Criterion satisfies DOE Order 430.1A (Ref 10.2) for the subject equipment / system. DOE Order 430.1A (Ref 10.2) "Life Cycle Asset Management," Attachment 2 "Contractor Requirements Document," Paragraph 2, Sections A through C, which in part requires UC to "...maintain physical assets in a condition suitable for their intended purpose," and employ "preventive, predictive, and corrective maintenance to ensure physical asset availability for planned use and/or proper disposition." Compliance with DOE Order 430.1A is required by Appendix G of the UC Contract.

2.0 SCOPE

The scope of this Criterion is to be used in implementing a utility outage on LANL property at all nuclear and non-nuclear facilities. It applies to utilities supplying a building or structure to the point of delivery, unless otherwise defined in a memorandum of understanding (MOU). This includes: electric system <600VAC, natural gas, water, sanitary wastewater, steam systems and Fire Protection Systems. The scope of this Criterion does not apply to telecommunications outages. If a telecommunications outage is necessary contact the LANL Computer, Communications and Networking Telecommunications Group (CCN-4) customer service representative.

3.0 ACRONYMS AND DEFINITIONS**3.1 Acronyms**

AHJ	Authority Having Jurisdiction
AR	Administrative Requirements
CFR	Code of Federal Regulations
DOE	Department of Energy

FMU	Facility Manager Unit
LIG	Laboratory Implementing Guidance
LIR	Laboratory Implementing Requirement
LPR	Laboratory Performance Requirements
O&M	Operations and Maintenance
PPE	Personal Protective Equipment
PP&PE	Personal Property and Programmatic Equipment
RP&IE	Real Property and Installed Equipment
SSS	Support Services Subcontractor
SSC	Structures, Systems, and Components
UC	University of California
UOI	Utility Operation Instructions

3.2 Definitions

Close-Out. Formal recognition that the work causing a planned utility outage has been completed. Close-out occurs before the utility affected by the outage is activated. Close-out can require the collection of signatures from institutional approval organizations and FMUs indicating that work and inspections have been completed, or verbal notification, at the affected organization's discretion. Once the notification is completed the system may be put on-line.

Final Inspection. Inspection of work by the work provider supervisor and those Institutional Approval Organizations and FMUs requesting participation on the Outage Form.

FMU Representative. A person designated by the Facility Manager of the FMU affected to approve and sign the Utility Outage Form (Appendix A) for organizations within their FMU. Persons from the LANL Support Services Subcontractor (SSS) may be an outage contact when the utility outage is limited to facilities managed by the SSS.

Institutional Approval Organizations. Organizations that have institutional responsibility for institutional utility systems. They are listed on the Utility Outage Forms for signatures. (See Appendix A)

Planned Utility Outage. A planned utility outage is a pre-arranged shutdown of a utility or system supplying a building or structure (electrical, steam/condensate, natural gas, water, sewer, fire protection, etc.) where interruptions of processes or user operations have been addressed and all affected users have been notified.

Requester. The outage contact from the FMU or LANL organization requesting the utility outage. The outage contact can be from the SSS or other LANL organization if designated by the responsible FMU or LANL organization as the person responsible for coordinating the utility outage.

Safety Review. A meeting initiated by any one of the institutional approval organizations and FMUs to discuss safety issues and review existing procedures, e.g., SSS Switching Procedure.

Note: An Unplanned Utility Outage is a shutdown of a utility or system that is unexpected, as with the result of a lightning strike to a transformer, or the rupture of a primary steam line. This type of outage may (1) interrupt or impair a user's operation, (2) have an impact on the safety and health of the employees and public, (3) have a detrimental impact on a structure, and (4) have any possible impact to the environment.

4.0 RESPONSIBILITIES

4.1 FWO-Systems, Engineering and Maintenance (SEM)

- 4.1.1** FWO-SEM is responsible for the administrative content of this Criterion and monitoring the applicability and the implementation status of this Criteria and either assisting the organizations that are not applying or meeting the implementation expectations contained herein or elevating their concerns to the director(s).

Basis: LIR 301-00-01.11; Issuing and Managing Laboratory Operations Implementation Requirements and Guidance, Section 5.4, OIC Implementation Requirements.

- 4.1.2** FWO-SEM shall provide technical assistance to support implementation of this Criterion.

4.2 FWO-UI Utilities and Infrastructure (FMU-80)

- 4.2.1** FWO-UI is responsible for the technical content and assessing the proper implementation across the Laboratory.
- 4.2.2** FWO-UI shall provide technical assistance to support implementation of this Criterion.

4.3 Facility Manager

- 4.3.1** Responsible for operations and maintenance of institutional, or Real Property and Installed Equipment (RP&IE) under their jurisdiction, in accordance with the requirements of this document.

- 4.3.2** Responsible for operations and maintenance of those Personal Property and Programmatic Equipment (PP&PE) systems and equipment addressed by this document that may be assigned to the FM in accordance with the FMU-specific Facility/Tenant Agreement.

4.4 Group Leader

- 4.4.1** Responsible for operations and maintenance of those Personal Property and Programmatic Equipment (PP&PE) systems and equipment addressed by this document, which are under their jurisdiction.
- 4.4.2** Responsible for system performance analysis and subsequent replacement or refurbishment of assigned PP&PE.

4.5 SSS Utility Supervisor

- 4.5.1** Line supervisor designated by the SSS Utility Department Manager to manage a utility system. These systems include water distribution, wastewater operations and collection system, electric transmission and distribution, steam operations and distribution, and natural gas distribution.

4.6 Authority Having Jurisdiction (AHJ) – POCs for Mechanical and Electrical Chapter of LANL Engineering Manual

The AHJ is responsible for providing a decision on a specific technical question regarding this criterion.

5.0 PRECAUTIONS AND LIMITATIONS

This section is not intended to identify all applicable precautions necessary for implementation of this Criterion. A compilation of all applicable precautions shall be contained in the implementing procedure(s) or work control authorization documents. The following precautions are intended only to assist the author of a procedure or work control document in the identification of hazards/precautions that may not be immediately obvious.

5.1 Precautions

- 5.1.1** Nuclear facilities and certain high hazard facilities (e.g. high explosive operations) may have additional facility specific requirements beyond those presented in this Criterion, which are contained in the Safety Analysis Report (SAR), Technical Safety Requirements (TSR), or facility safety plans, as applicable.
- 5.1.2** Requester has the responsibility to determine and communicate the boundaries of the outage to Affected FMUs so that an unplanned outage condition will not occur.

- 5.1.3** Impairments to Fire Protection Systems are specifically addressed under O & M Criterion 733 – Fire Protection System Impairment Control Program.

5.2 LIMITATIONS

The intent of this Criterion is to identify the minimum generic requirements and recommendations for SSC operation and maintenance across the Laboratory. Each user is responsible for the identification and implementation of additional facility specific requirements and recommendations based on their authorization basis and unique equipment and conditions, (e.g., equipment history, manufacturer warranties, operating environment, vendor O&M requirements and guidance, etc.).

Nuclear facilities and moderate to high hazard non-nuclear facilities will typically have additional facility-specific requirements beyond those presented in this Criterion. Nuclear facilities shall implement the requirements of DOE Order 4330.4B (Ref. 10.3) as the minimum programmatic requirements for a maintenance program. Additional requirements and recommendations for SSC operation and maintenance may be necessary to fully comply with the current DOE Order or CFR identified above.

6.0 REQUIREMENTS

Minimum requirements that Criterion users shall follow are specified in this section. Requested variances to these requirements shall be prepared and submitted to FWO-SEM in accordance with LIR 301-00-02 (Ref. 10.4), “Variances and Exceptions to Laboratory Operations Requirements,” for review and approval. The implementation of these requirements will ensure that the subject SSC is maintained in a condition suitable and available for its intended use. The Criterion users are responsible for analysis of operational performance and SSC replacement or refurbishment based on this analysis. Laws, codes, contractual requirements, engineering judgement, safety matters, and operations and maintenance experience drive the requirements contained in this section.

6.1 Requester

- Requester provides to the affected FMUs and Institutional Approval Organizations the reason for the request, the preferred time for the outage, and other pertinent information; and
- makes the request, preferably at least 10 working days prior to the desired date of the action; and
- ensuring lockout/tagout procedures are followed; and
- ensuring close-out requirements are met for Institutional Approval Organizations and Affected FMUs.

Basis: This is to ensure personnel safety and is based on DOE Lessons Learned LL-OH/OCS 2001-1 (*Configuration of Worksite*)

6.2 Affected FMUs

The outage contact from the FMU ensures that all necessary arrangements are made to prepare for the utility outage. This includes:

- completing the Utility Outage Form (Appendix A) for their FMUs affected by the outage;
- obtaining approval signatures and/or documenting notification of affected organizations within his or her FMU;
- arranging for temporary utilities with the Requester if required;
- ensuring that the committed outage schedule (date/time) is available; and
- attending safety review outage planning meeting with Institutional Approval Organizations and Affected FMUs.

Basis: This is to ensure personnel safety and is based on DOE Lessons Learned *L-2000-OR-BJCPORTS-1102 (Safety Work Permit)*

6.3 Work Provider

The work provider is responsible for:

- meeting the schedule or notifying the Requester of a schedule change, and
- ensuring lockout/tagout procedures are followed.

Basis: This is to ensure personnel safety and is based on DOE Lessons Learned *1996-LA-LANL-ESH7-0001 (Work Control)*

6.4 Facilities Managed by SSS

- A person from the SSS shall act as the Requester and Affected FMU when the outage is limited to facilities managed by the SSS. The SSS Facility Supervisor must be notified and included on the attached forms.

Basis: This inspection is required to ensure personnel safety and is based on DOE Lessons Learned *Y-2001-OR-BJCPORTS-0101 (Roles and Responsibilities)*

6.5 Operations Requirements

6.5.1 SSS shall follow Utility Operating Instructions (UOI).

Basis: SSS UOI 60-10-100.

6.6 Maintenance Requirements

6.6.1 General

No requirements beyond those stated in Section 5.2, Limitations.

6.6.2 Pre-Operational Inspections

Affected FMU Representative walk-down the area to check buildings and obtain concurrence with building managers.

Basis: This inspection is required to ensure personnel safety and is based on DOE Lessons Learned 2000-KO-SNL-NMFAC-0001(*Communication of Hazards*)

6.6.3 Outages affecting Fire Alarm Systems must be addressed under Fire Protection System Impairment Notification.

Basis: ALO-LA-LANL-SHOPFAC – 2001-0002

7.0 RECOMMENDATIONS AND GOOD PRACTICES

The information provided in this section is recommended based on acceptable industry practices and should be implemented by each user based on his/her unique application and operating history of the subject systems/equipment.

Notifications. Approvals may be obtained by telephone provided that the approving individual's name is entered on the (Appendix A) and initiated by the Requester. Coordination meetings are encouraged for large, complex situations.

Extension of Utility Outage (if necessary). Should the Requester determine that the committed outage schedule (on-off date/time) cannot be met, he/she will request an extension from the Affected FMU representative. If granted, the Requester will note the revised on-off date/time on the Utility Outage Form (Appendix A) and will notify the appropriate Institutional Approval Organizations and Affected SSS Utility Supervisor. The Affected FMUs will notify affected organizations within their FMUs. If denied, the requester will examine temporary restoration of service versus working the job continuously until complete and follow the best course of action under the circumstances.

7.1 Operations Recommendations

No recommendations beyond those stated in Section 5.2, Limitations.

7.2 Maintenance Recommendations

No recommendations beyond those stated in Section 5.2, Limitations.

8.0 GUIDANCE**8.1 Operations Guidance****8.1.1 No implementing guidance available.**

8.2 Maintenance Guidance

8.2.1 No implementing guidance available.

9.0 REQUIRED DOCUMENTATION

Maintenance history shall be maintained for planned utility outages to include, as a minimum, the parameters listed in the Table 9-1 below:

Table 9-1 Documentation Parameters

MAINTENANCE HISTORY DOCUMENTATION PARAMETERS				
PARAMETER	ML 1	ML 2	ML 3	ML 4
Maintenance Activities				
Repair / Adjustments	NA	NA	NA	NA
PM Activities	NA	NA	NA	NA
Equipment Problems				
Failure Dates	NA	NA	NA	NA
Failure Root Cause	NA	NA	NA	NA
Inspection Results				
Inspection Date	NA	NA	NA	NA
SSC Condition	NA	NA	NA	NA
Form 1821, Utility Outage				
Outage Form shall be maintained with the Work Package during the execution of the work. Form 1821, can be found on EIA Desktop on Demand on "Online Forms," or at the following worldwide web address: http://eia/utility.htm	X	X	X	X

Basis: Documentation of the parameters listed in Table 9-1 above satisfies the requirements of LPR 230-07-00, Criteria 2, (Ref. 10.5) which states; "Maintenance activities, equipment problems, and inspection and test results are documented."

10.0 REFERENCES

- 10.1 LIR 230-05-01.0, Operation and Maintenance Manual.
- 10.2 DOE O 430.1A, Attachment 2 "Contractor Requirements Document" (Paragraph 2, Sections A through C), a requirement of Appendix G of the UC Contract.

Criterion 301: Planned Utility Outage

Date: 11/21/02

Revision: 1

- 10.3** DOE Order 4330.4B, Maintenance Management Program, Section 3.4.9.
- 10.4** LIR 301-00-02.0, Variances and Exceptions to Laboratory Operation Requirements.
- 10.5** DOE O 430.1A, Attachment 2 “Contractor Requirements Document” (Paragraph 2, Sections A through C), a requirement of Appendix G of the UC Contract.

11.0 APPENDICES

Appendix A: Electrical Outage Form

APPENDIX A

Utility Outage Form

Utility Outage Form

Technical Area and Building(s)			Work Order #
Reason for Outage			
Requester (<i>Print Name</i>)	Requester Phone	Requester Approval Signature/Org.	Date
Outage Schedule			
Off Date	Time (AM) (PM)	On Date	Time (AM) (PM)

Utilities Affected

Utility Affected	Utility within Building	Utility Outside Building	Safety Review Required	Is This New Service	Temporary Utility Requirements (<i>Supplemental utilities required while normal utilities are shut off during outage-explain</i>).
Electrical, Primary	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Electrical, Secondary	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Steam/ Condensate	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Natural Gas	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Water	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Fire Protection	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Sewer	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Institutional Approval Organizations

Organization	MS/Phone # Fax #	Approval Signature or Notification	Final Inspection or Notification	Close-out Notification Required	Attend Safety Review
FWO-FIRE Fire Protection	M713/7-9045 Fax # 5-7193		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
FWO-UI Utilities & Infrastructure, FMU-80	K718/5-0106 Fax # 5-6636		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
S-3 Trouble Desk	G725/7-4949 Fax # 5-8477		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
SSS Central Alarm (PTLA/CAS)	G724/7-4437 Fax # 5-5433		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Institutional Approval Organizations (Continued)

Organization	MS/Phone # Fax #	Approval Signature or Notification	Final Inspection or Notification	Close-out Notification Required	Attend Safety Review
SSS UWGW for Water, Gas, and Wastewater	A199/7-7711 Fax # 5-5424		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
SSS Power Control Center Electrical and Steam	A199/7-4058 Fax # 7-1980		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
CNN-4 Telecommunications	K400/7-7057 Fax # 5-2517		Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

Note: The FMU representative is the authorizing approval and His/Her signature is required before outage occurs. The SSS supervisor shutting down the service will call the Central Alarm Facility at 667-4437 in advance, and immediately before and after all outages when fire protection or security systems are involved. The Requester contact will notify the affected Utility Center when the work is completed.

FMUs Affected by Outage

Affected Organizations	MS/Phone # Fax #	Approval Signature or Notification	Final Inspection or Notification	Close-out Notification Required	Attend Safety Review
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>
			Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>